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ILLUSTRATIONS OF FUNGI—IX

WILLIAM A. MURRILL

The specimens here illustrated were collected and drawn during the summer of 1910. They are all represented natural size, and, being larger, will be found less difficult to identify than the small species figured in the May number of this journal.

In the printing of the accompanying plate, the red color, as frequently happens, came out too strongly, giving a purple tint to some of the figures. In figure 2, the pileus and gills should be fulvous; in figure 7, the pileus should be dark-fulvous with a chestnut tint.

Pholiota candicans (Bull.) Schröt.

Pholiota praecox (Pers.) Quél.

EARLY PHOLIOTA

PLATE 49. FIGURE 1. $\times 1$

Pileus fleshy, convex to plane, at times umbonate, solitary or gregarious, 3–7 cm. broad; surface smooth or pitted, glabrous, moist, whitish, cream-colored or isabelline, the center often darker; lamellae adnexed, crowded, white, becoming fulvous; spores ellipsoid, smooth, ferruginous, $7-8 \times 5 \mu$; stipe subconcolorous, equal, glabrous, 4–8 cm. long, 3–5 mm. thick; veil large, white, forming a conspicuous and permanent annulus near the apex of the stipe.

This is one of our best edible species, and it occurs quite abundantly during spring and summer in grassy and open places throughout temperate regions.

[*MYCOLOGIA* for May, 1911 (3: 97–164), was issued June 3, 1911.]



ILLUSTRATIONS OF FUNGI

A very interesting sterile form of this species has appeared in abundance, both last year and this year, beneath a large white oak on the grounds of the New York Botanical Garden, a few fertile sporophores being present in each case and being similar in all respects to the sterile ones except as regards spore formation. The lamellae of the sterile plants remain pure-white and exceedingly thin; microscopic sections show the basidia undeveloped and devoid of sterigmata, the very few inflated cystidia being similar in form and abundance in both fertile and sterile sporophores. The sterility is absolute and without apparent cause.

Hebeloma praecox sp. nov.

EARLY HEBELOMA

PLATE 49. FIGURE 2. $\times 1$

Pileus convex to expanded, slightly umbonate, gregarious, 4–5 cm. broad; surface dry, glabrous, opaque, smooth, ochraceous-isabelline; margin incurved, entire or undulate, showing no trace of a veil; context white, sweet, odor pleasant; lamellae sinuate, arcuate, close, many times inserted, pallid when young, fulvous at maturity; spores ovoid, smooth, pale-ochraceous, not conspicuously nucleate, $5-6 \times 3-4 \mu$; stipe fleshy, brittle, subequal, stuffed to hollow, finely scabrous, sometimes rough, cremeous, 3–4 cm. long, 5–8 mm. thick.

Type collected among mosses on a shady bank in the New York Botanical Garden, June 20, 1910, by W. A. Murrill. Also collected again in the same spot, June 8, 1911. This is the first species of *Hebeloma* to appear in this locality. Although not at all viscid when found on either occasion, it might well become slightly so in wet weather. The remnants of the partial veil are left clinging to the stipe as the expansion of the pileus progresses, leaving none on the margin.

Coprinus sterquilinus (Fries) Quél.

LARGE-SPORED INKCAP

PLATE 49. FIGURE 3. $\times 1$

Pileus ovoid to expanded, cespitose, 3–7 cm. broad; surface white and villose in young plants, becoming radiate-sulcate and blackish with age, the disk at all stages being brownish and squar-

rose-squamose; lamellae free, crowded, ventricose, white to black; spores very large, ellipsoid, regular, smooth, black, $18 \times 12 \mu$ in specimens found, reported slightly larger by most authors; stipe attenuate upward, fibrillose, white, blackening when handled, subbulbous at the base, 5–8 cm. high, 4–8 mm. thick; veil small, white, cottony, remaining near the base of the stipe as a small annulus.

This interesting species was described by Fries in 1821 from specimens collected on cow dung in autumn. My own plants, collected on a manure heap in the grounds of the New York Botanical Garden, June 22, 1910, were compared with those at Upsala and found to agree perfectly. Specimens found by Dr. Peck on the ground in an open field near Ticonderoga in August were described by him in 1879 as *Coprinus macrosporus*. Bolton's *A. oblectus* is probably the same thing, but it is hard to determine this with certainty. The species seems to be rare and not generally well known, either in this country or in Europe. Its edible qualities have probably not been tested, but some of our best economic species, figured in *MYCOLOGIA* for March, 1909, belong to this genus.

Melanoleuca melaleuca (Pers.) Pat.

Tricholoma melaleucum (Pers.) Quél.

BLACK AND WHITE MUSHROOM

PLATE 49. FIGURE 4. $\times 1$

Pileus thin, convex to plane, depressed around the small umbo, solitary, 3–6 cm. broad; surface glabrous, fuliginous to fawn-colored, margin incurved when young; context thin, sweet, edible, inodorous; lamellae very white, ventricose, emarginate, crowded; spores ovoid-ellipsoid, finely echinulate, hyaline, uninucleate, $7-9 \times 5-6 \mu$; stipe elastic, variable in color and size, subglabrous, slender, often enlarged above or below, 4–8 cm. long.

This well-known and exceedingly variable European species, occurring in open or slightly shaded grassy places, seems rare in America, and the form found about New York City appears so different from the normal European type as to be scarcely recognizable. To add further to the difficulty, this species is probably as much a *Collybia* as a *Tricholoma*, and *Collybia stridula* Fries seems hardly distinct from it. Dr. Peck has specimens from North Elba labeled *Tricholoma microcephalum* Karsten. His *T.*

melaleucum thujinum, from Warren Co., agrees best with our New York City form. *Tricholoma subcinereum* Peck is nearly allied, but is certainly distinct, having different spore characters.

Lactaria subdulcis (Pers.) Fries

SWEETISH LACTARIA

PLATE 49. FIGURE 5. $\times 1$

Pileus fleshy, thin, convex, papillate, becoming depressed to infundibuliform, 1–5.5 cm. broad; surface fulvous, isabelline, or reddish-fulvous, not fading, azonate, dry, glabrous, smooth; margin involute, then spreading, sometimes flexuous: context firm, fragile, whitish or tinted with isabelline or fulvous, odorless, edible; latex white, unchanging, mild or slowly acrid to bitterish; lamellae whitish or tinted with isabelline, becoming pruinose, sometimes forking, close, adnate, or decurrent by a tooth, up to 3 mm. broad; stipe of the same color as the pileus or paler, nearly equal or tapering upwards, glabrous, or sometimes slightly pubescent at the base, dry, stuffed, becoming hollow, 2–7 cm. long, 2–6 mm. thick: spores white, globular to broadly ellipsoid, echinate, $7 \times 8 \mu$.

This edible species occurs on the ground in or near woods throughout the eastern United States and Europe. The above description is taken from Miss Burlingham's monograph of the genus *Lactaria*, published in volume 9, part 3, of NORTH AMERICAN FLORA.

Lepiota americana Peck

AMERICAN LEPIOTA. BLUSHING LEPIOTA

PLATE 49. FIGURE 6. $\times 1$

Pileus ovoid to convex and at length expanded, umbonate, 5–15 cm. broad; surface white, umbo and scales reddish-brown, the entire plant becoming reddish-brown when wounded or on drying; lamellae white, free, close; spores subellipsoid, smooth, hyaline, uninucleate, $7.5-10 \times 5-7 \mu$; stipe thickened below, white, hollow, 7–12 cm. long; veil white, forming an apical annulus.

A conspicuous and easily recognized edible species of wide distribution in America, occurring in groups or clusters on rich lawns or about old stumps, sawdust piles, or compost heaps from mid-summer to autumn. *Lepiota Morgani*, a poisonous species resembling it in shape, has green spores, causing the gills to assume a green color as they mature.

Collybidium luxurians (Peck) Murrill

LUXURIANT COLLYBIDIUM

PLATE 49. FIGURE 7. $\times 1$

Pileus convex to expanded, umbonate, cespitose, 5–8 cm. broad; surface dry, faintly radiate-striate but not fibrillose, fulvous, with bay umbo, irregular with undulate margin; context somewhat tough but easily torn, odor pleasant, taste sweetish; lamellae sinuate, arcuate, rather close, narrow, crenulate, pallid, becoming discolored; spores oblong-ellipsoid, smooth, hyaline, $7-8 \times 3-4 \mu$; stipe twisted, curved, slightly enlarged below, hollow, cartilaginous, pruinose, pallid above, tinged with fulvous below, 10–12 cm. long, 5–9 mm. thick.

This species was first described as a *Collybia* by Dr. Peck in 1897 from dried specimens sent him by Dr. Underwood, who collected them under brush heaps near Auburn, Alabama, in July, 1896. The accompanying illustration and description were drawn from plants collected by Mr. Volkert and myself in weeds at the edge of a sawdust pile near Bronx Park, June 20, 1910. They were found to agree with the type specimens at Albany in all important characters, but are only about one half as large.